

DETAILED ACTION

Claim Objections

1. Claims 7-10 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim can not be dependent on another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 7-10 have not been further treated on the merits.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dhal et al. (WO 97/13183), and further in view of Shuji et al. (JP Pub No. 57-010621).

4. The applicant claims a composition for hologram recording comprising 5 to 95% by mass of a (A) cationically polymerizable compound, 5 to 95% by mass of a (B) compound whose refractive index differs by 0.005 or more from that of a cured article of the cationically polymerizable compound, 0.01 to 20% by mass of a (C) thermal cationic polymerization initiator, and 0.05 to 20% by mass of an (D) optical cationic polymerization initiator, based on 100% mass of the composition for hologram recording.

Art Unit: 1796

5. The applicant additionally claims that the cationically polymerizable compound is an epoxy compound, wherein the compound comprises a polyfunctional cationically polymerizable compound and a monofunctional cationically polymerizable compound.

Further limitations claimed by the instant application include, the polyfunctional cationically polymerizable compound is a polyfunctional epoxy compound having a siloxane bond, and the monofunctional cationically polymerizable compound is a monofunctional epoxy compound having a siloxane bond.

6. In reference to claims 1-3 and 5, Example 2 of Dhal et al. teaches a holographic recording medium prepared by comprising a mixture of (A) polyfunctional epoxy compound having a siloxane bond (monomer) and a (B) binder such as polymethylphenyl siloxane, whose refractive indices differ by 0.0603. The monomer was first added to a sufficient amount of (D) 4-octyloxyphenyl phenyliodonium hexafluoroantimonate to make the content of the iodonium salt in the final recording medium 5% by weight (photoinitiator). To the monomer/photoinitiator mixture, the binder was added, as well as a sufficient amount of sensitizer (pg9, line21). Dhal et al. also teaches the preferred present holographic medium comprises from 1 to 10% by weight of the (D) photoinitiator, from 10 to 89% by weight of the (B) binder, and from 10 to 89% by weight of the (A) monomer based on 100% mass of the holographic medium (pg7, line19).

7. Dhal et al. discloses a holographic recording medium comprising: a optical cationic polymerization initiator, a binder, and at least one monomer or oligomer capable of undergoing cationic polymerization, wherein the instance that more than one

Art Unit: 1796

monomer or oligomer is used to make a compound capable of undergoing cationic polymerization, mixture of monofunctional and polyfunctional compounds may be used, and therefore covers claim 4 of the instant application (pg14, clm11).

8. However, Dhal et al. fails to teach the use of a (C) thermal cationic polymerization initiator in combination with the (D) optical cationic polymerization initiator, and compounds (A) and (B) to produce a composition for hologram recording.

9. Shuji et al. teaches a catalyst for polymerizing an epoxy compound which is prepared by combining an (B) organosilicon compound with (C) an organic type aluminum compound. An (A) epoxy compound is added to the catalyst and is blended fully (abs). The (C) thermal cationic initiator, as taught by Shuji et al. is used in the same context as that of the instant application.

10. At the time the invention was made, it would have been obvious to a person having ordinary skill in the art, to combine cationically polymerizable compounds and an optical cationic polymerization initiator, as taught by Dhal et al., with the addition of a thermal cationic initiator, as taught by Shuji et al. The case law has held that, "The combination of two composition, each of which is taught by prior art to be useful for the same purpose, in order to form a third composition that is to be used for the very same purpose may be *prima facie* obviousness" *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980).

Allowable Subject Matter

11. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica Paul whose telephone number is (571)270-5453. The examiner can normally be reached on Monday thru Friday 7:30a - 5:00p; alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Jessica Paul

Application/Control Number: 10/522,722
Art Unit: 1796

Page 6

Examiner
Art Unit 4171

/JMP/

/Ling-Siu Choi/

Primary Examiner, Art Unit 1796